

Piscataquog Annual Water Use versus Stream Flow – Calendar Year 2003

The Piscataquog Water Management Planning Area covers 180 square miles and includes two streamflow gages (USGS 01091500 PISCATAQUOG RIVER NEAR GOFFSTOWN, NH and USGS 01090800 PISCATAQUOG RIVER BL EVERETT DAM, NR E WEARE, NH). However, these are partial-record stations maintained for the purposes of flood control operations. Reliability of the discharge information at low flows is variable and daily mean flow values are not published for these stations. Streamflow estimations for the Piscataquog were made instead by using three nearby gages-- USGS 01094000 SOUHEGAN RIVER AT MERRIMACK, NH with a watershed area of 170 square miles, USGS 01082000 CONTOOCOOK RIVER AT PETERBOROUGH, NH with a watershed area of 68.1 square miles and USGS 01085500 CONTOOCOOK R BL HOPKINTON DAM AT W HOPKINTON, NH with a watershed area of 426.0 square miles. These gages are on rivers in adjacent watersheds.

The Water Management Planning Area is further complicated by including three branches of the Piscataquog River. The Middle and South Branches join in New Boston and then join the North Branch in Goffstown. The designated portion of the North Branch is divided by Lake Horace and Everett Lake. For this report the streamflow was transposed areal from the average of the surrogate gages to all impact points on the Designated River. There are thirteen registered sources and three registered, measured returns in the Water Management Planning Area. There are none on the Middle Branch, two source on the Lower Branch and two sources on the Upper Branch. The remaining nine sources and the three measured returns are on the portion of the Designated River below the confluences of the three branches.

The assessment for the Piscataquog evaluates the Upper and Lower Branches separately. The Middle Branch is included as a tributary to the Lower Branch in its assessment because there were no registered water users in the Middle Branch in 2003.

The much of the Designated River was not in compliance with the General Standard during the month of July. In July, the Designated River was not in compliance with the General Standard beginning near the Goffstown Village Precinct Water Works to the confluence with the Merrimack River. Also, short reach on the Upper Branch was not in compliance below where Gorham Brook enters as a tributary. The Lower Branch is not in compliance at its headwaters.






The Water Management Planning Area includes registered water use by three hydroelectric facilities. All three are on the mainstem below the three branches. Water use by hydroelectric facilities are not shown in the monthly graphs because flow in is expected to equal flow out and because the General Standard does not apply to hydroelectric facilities between their point of withdrawal and point of return per Env-Ws 1903.02(d). Other water users include a municipal water system at Goffstown and water use for irrigation by three golf courses and at St. Anselm College athletic fields.

The Piscataquog Designated River drains into the Merrimack River upstream of the Lower Merrimack Designated River. The results of this assessment are a component of that river's assessment.

Piscataquog River Affected Water User Facilities: Source and Discharge Locations

Legend

Affected Water Users

-  Source
-  Discharge
-  Stream Gages
-  Active
-  Inactive

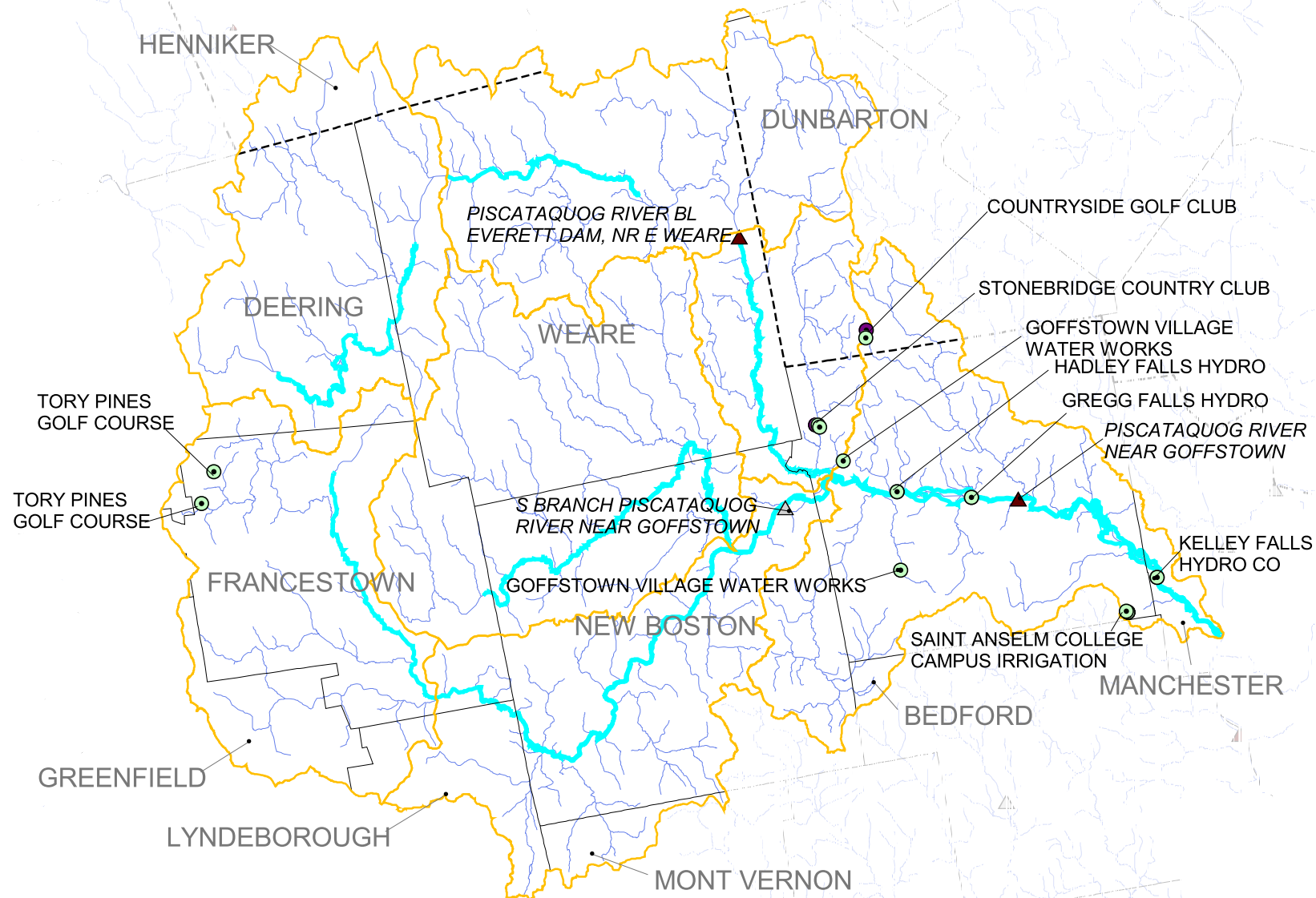
 Designated Reach

 Hydrology

 State boundary

 Town boundary

 WMPA



The coverages presented are under constant revision as new sites or facilities are added. They may not contain all of the potential or existing sites or facilities. NHDES is not responsible for the use or interpretation of this information. Not intended for legal purposes. Water users database last updated January 2004.

Map produced January 30, 2004

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0 1 2 3 4 Miles



2003 UB Piscataquog Water Use in CFS

[illegible]

2003 Upper Branch Piscataquog Aggregate Water Use in CFS

WU_NAME	FACILITY	WUSD_ID	DA on												
			DR (\$Q	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Start point Seg 1 of Upper Branch			MILE)	4.2	0	0	0	0	0	0	0	0	0	0	0
STONEBRIDGE COUNTRY CLUB	STONEBRIDGE COUNTRY CLUB	20721 20721-S02		75.8	0.00	0.00	0.00	0.01	0.08	0.10	0.40	0.22	0.11	0.01	0.00
STONEBRIDGE COUNTRY CLUB	STONEBRIDGE COUNTRY CLUB	20721 20721-S01		75.8	0.00	0.00	0.00	0.01	0.08	0.10	0.40	0.22	0.11	0.01	0.00
End point of Upper Branch				76.2	0.00	0.00	0.00	0.01	0.08	0.10	0.40	0.22	0.11	0.01	0.00

Piscataquog Watershed CFSM values

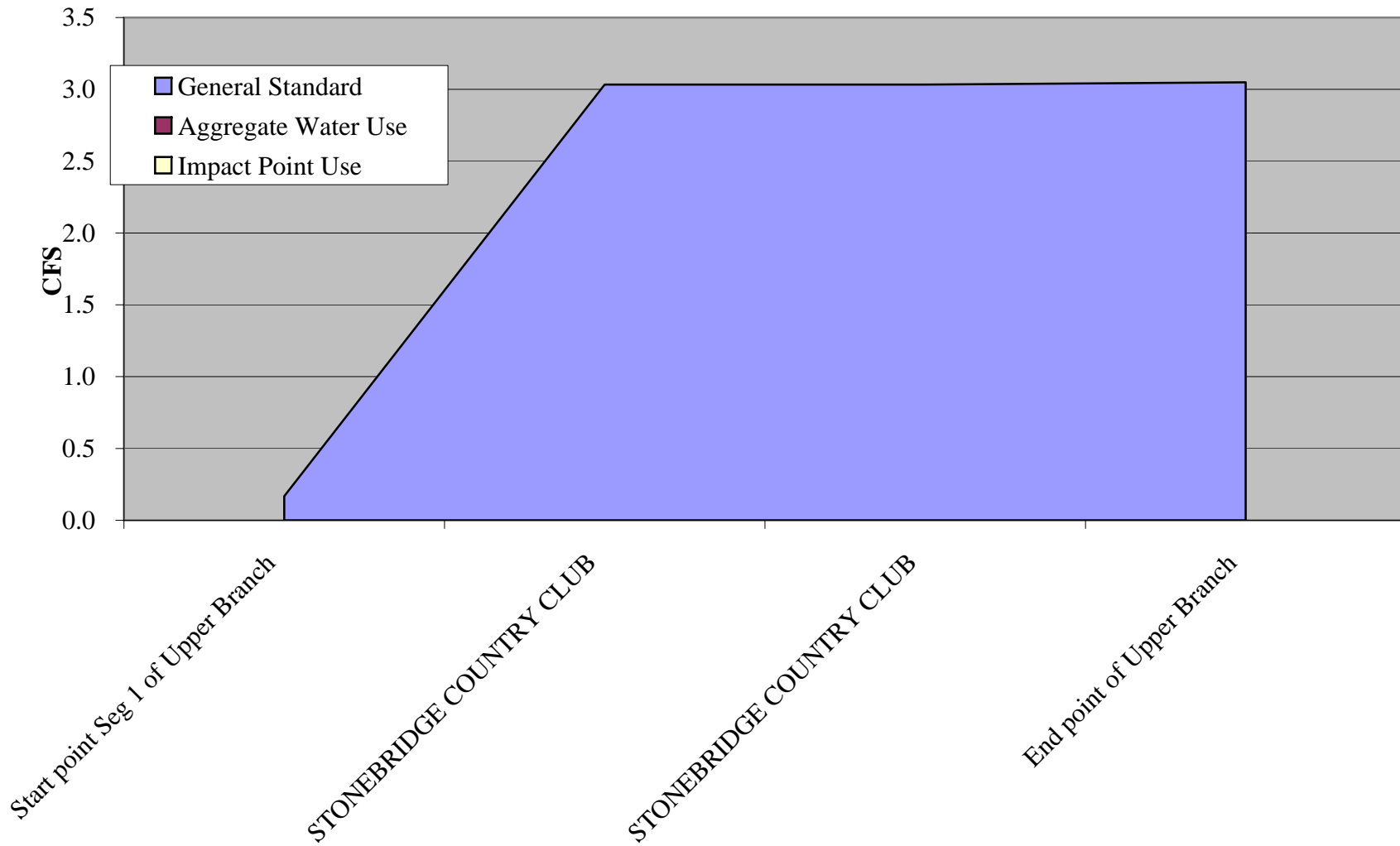
Average of 01094000, 01082000, and 01085500	Calculated 2003 monthly mean streamflow in CFSM		1.39	1.32	4.10	5.20	2.69	1.84	0.28	0.99	0.50	1.37	2.07	3.54
USGS 01094000 SOUHEGAN RIVER AT MERRIMACK, NH	Calculated 2003 monthly mean streamflow in CFSM	171	1.57	1.59	5.21	4.78	3.14	2.00	0.30	0.72	0.42	1.23	1.94	3.87
USGS 01082000 CONTOOCOOK RIVER AT PETERBOROUGH, NH	Calculated 2003 monthly mean streamflow in CFSM	68.1	1.58	1.66	4.41	4.74	2.63	1.91	0.30	1.41	0.61	1.56	2.07	2.60
USGS 01085500 CONTOOCOOK R BL HOPKINTON DAM AT W HOPKINTON, NH	Calculated 2003 monthly mean streamflow in CFSM	427	1.03	0.72	2.69	6.09	2.31	1.60	0.25	0.82	0.48	1.31	2.20	4.16
Average of 01094000, 01082000, and 01085500	General Standard in cfs		0.04	0.04	0.16	0.16	0.04	0.04	0.0044	0.02	0.02	0.04	0.04	0.04
USGS 01094000 SOUHEGAN RIVER AT MERRIMACK, NH	General Standard in cfs	170.0	0.04	0.04	0.16	0.16	0.04	0.04	0.0038	0.02	0.0038	0.04	0.04	0.04
USGS 01082000 CONTOOCOOK RIVER AT PETERBOROUGH, NH	General Standard in cfs	68.1	0.04	0.04	0.16	0.16	0.04	0.04	0.0046	0.04	0.02	0.04	0.04	0.04
USGS 01085500 CONTOOCOOK R BL HOPKINTON DAM AT W HOPKINTON, NH	General Standard in cfs	426.0	0.04	0.02	0.04	0.16	0.04	0.04	0.0047	0.02	0.0047	0.04	0.04	0.16

2003 Upper Branch Piscataquog Estimated Monthly General Standard at Each Impact Point in CFS		Average of 01094000, 01082000, and 01085500		General Standard in cfsm		0.04	0.04	0.16	0.16	0.04	0.04	0.0044	0.02	0.02	0.04	0.04	0.04
	USGS 01094000 SOUHEGAN RIVER AT MERRIMACK, NH		170.0	General Standard in cfsm		0.04	0.04	0.16	0.16	0.04	0.04	0.0038	0.02	0.0038	0.04	0.04	0.04
	USGS 01082000 CONTOOCOOK RIVER AT PETERBOROUGH, NH		68.1	General Standard in cfsm		0.04	0.04	0.16	0.16	0.04	0.04	0.0046	0.04	0.02	0.04	0.04	0.04
	USGS 01085500 CONTOOCOOK R BL HOPKINTON DAM AT W HOPKINTON, NH		426.0	General Standard in cfsm		0.04	0.02	0.04	0.16	0.04	0.04	0.0047	0.02	0.0047	0.04	0.04	0.16
WU_NAME	FACILITY	WUSD_ID	DA on DR (SQ MILE)		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Start point Seg 1 of Upper Branch			4.2		0.2	0.2	0.7	0.7	0.2	0.2	0.0	0.1	0.1	0.2	0.2	0.2	
STONEBRIDGE COUNTRY CLUB	STONEBRIDGE COUNTRY CLUB	20721 20721-S02	75.8		3.0	3.0	12.1	12.1	3.0	3.0	0.3	1.5	1.5	3.0	3.0	3.0	
STONEBRIDGE COUNTRY CLUB	STONEBRIDGE COUNTRY CLUB	20721 20721-S01	75.8		3.0	3.0	12.1	12.1	3.0	3.0	0.3	1.5	1.5	3.0	3.0	3.0	
End point of Upper Branch			76.2		3.0	3.0	12.2	12.2	3.0	3.0	0.3	1.5	1.5	3.0	3.0	3.0	

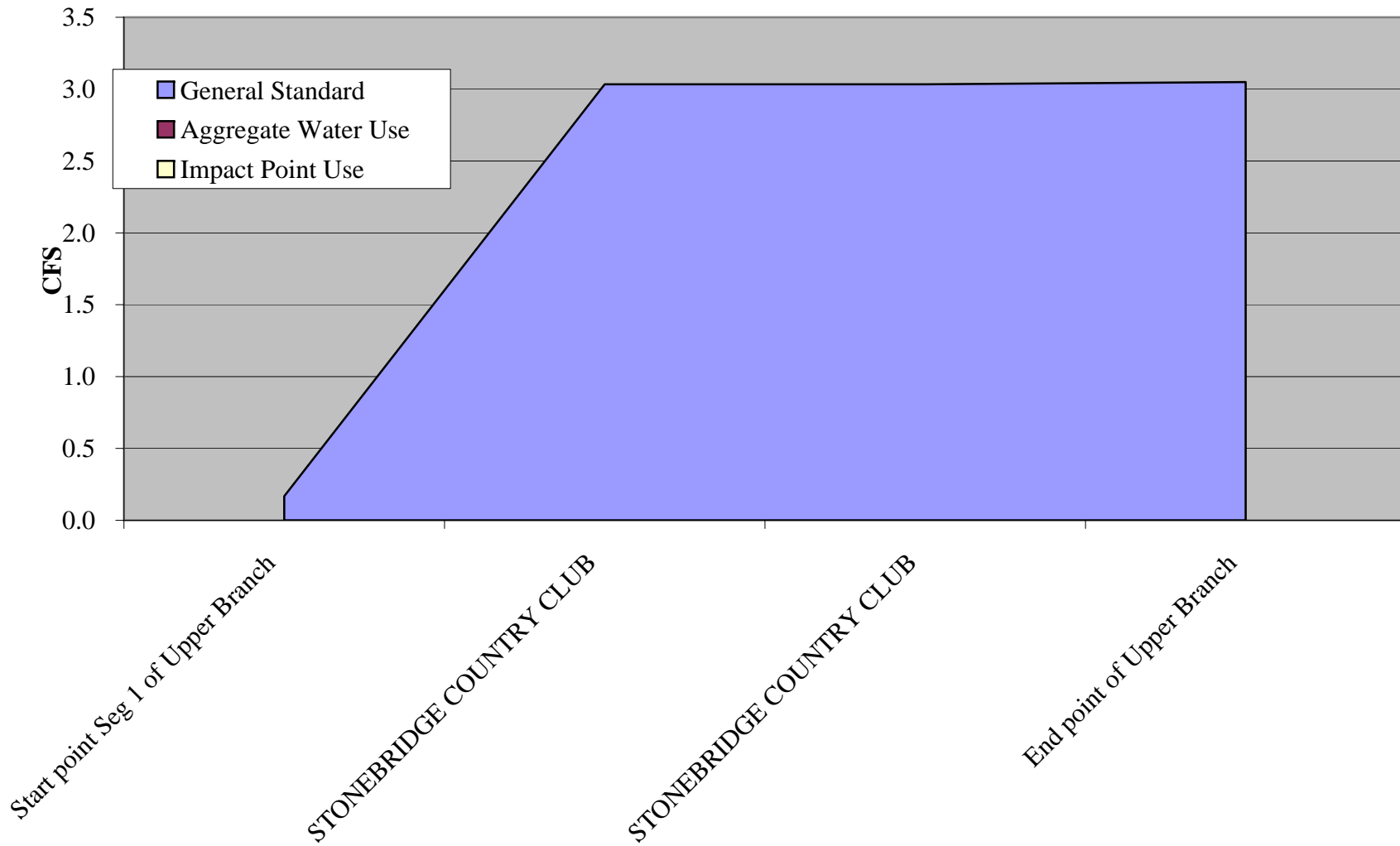
**2003 Upper Branch Piscataquog
Estimated Monthly Margin of the
Aggregate Water Use Below the
General Standard**

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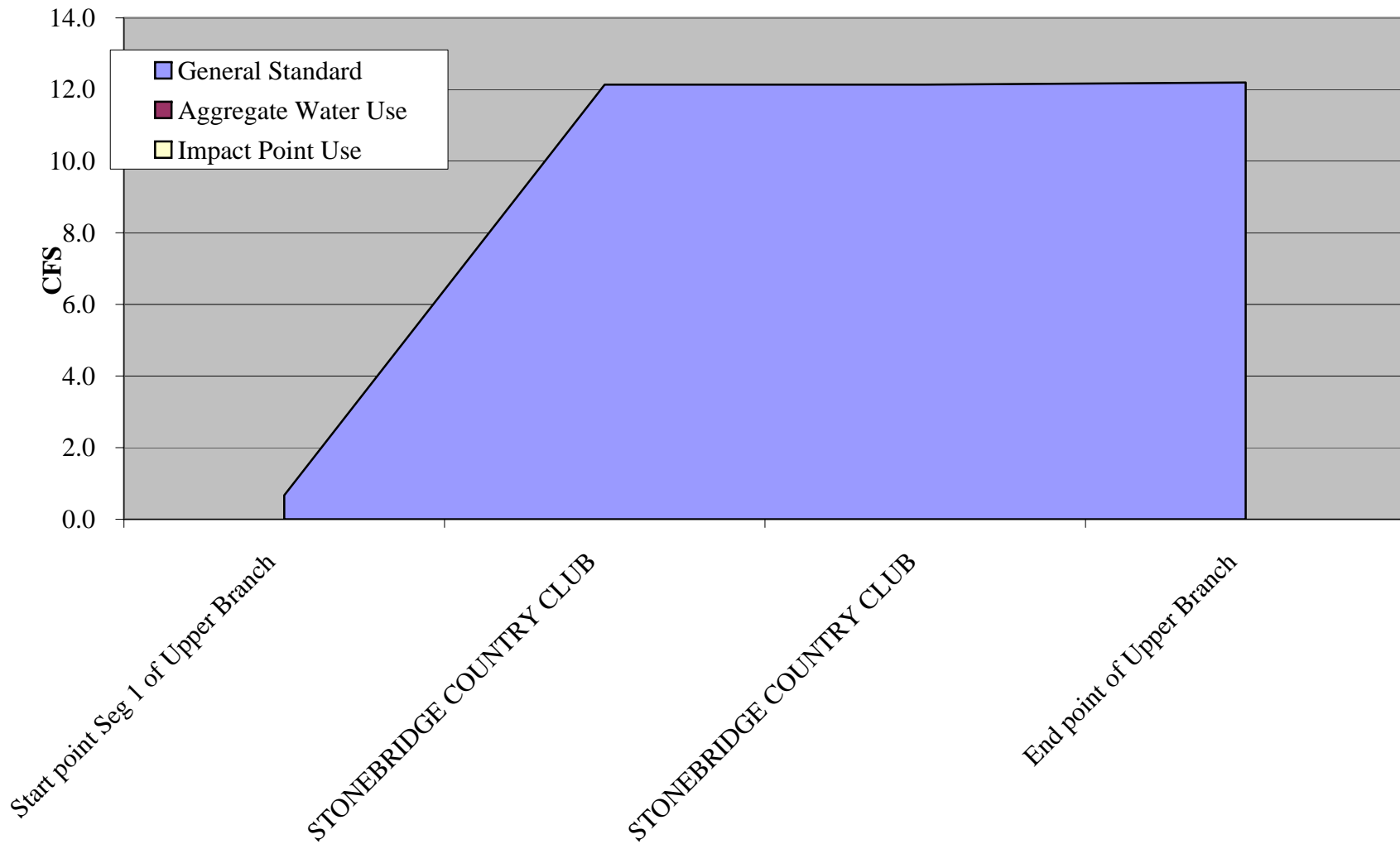
January 2003 Upper Branch Piscataquog River



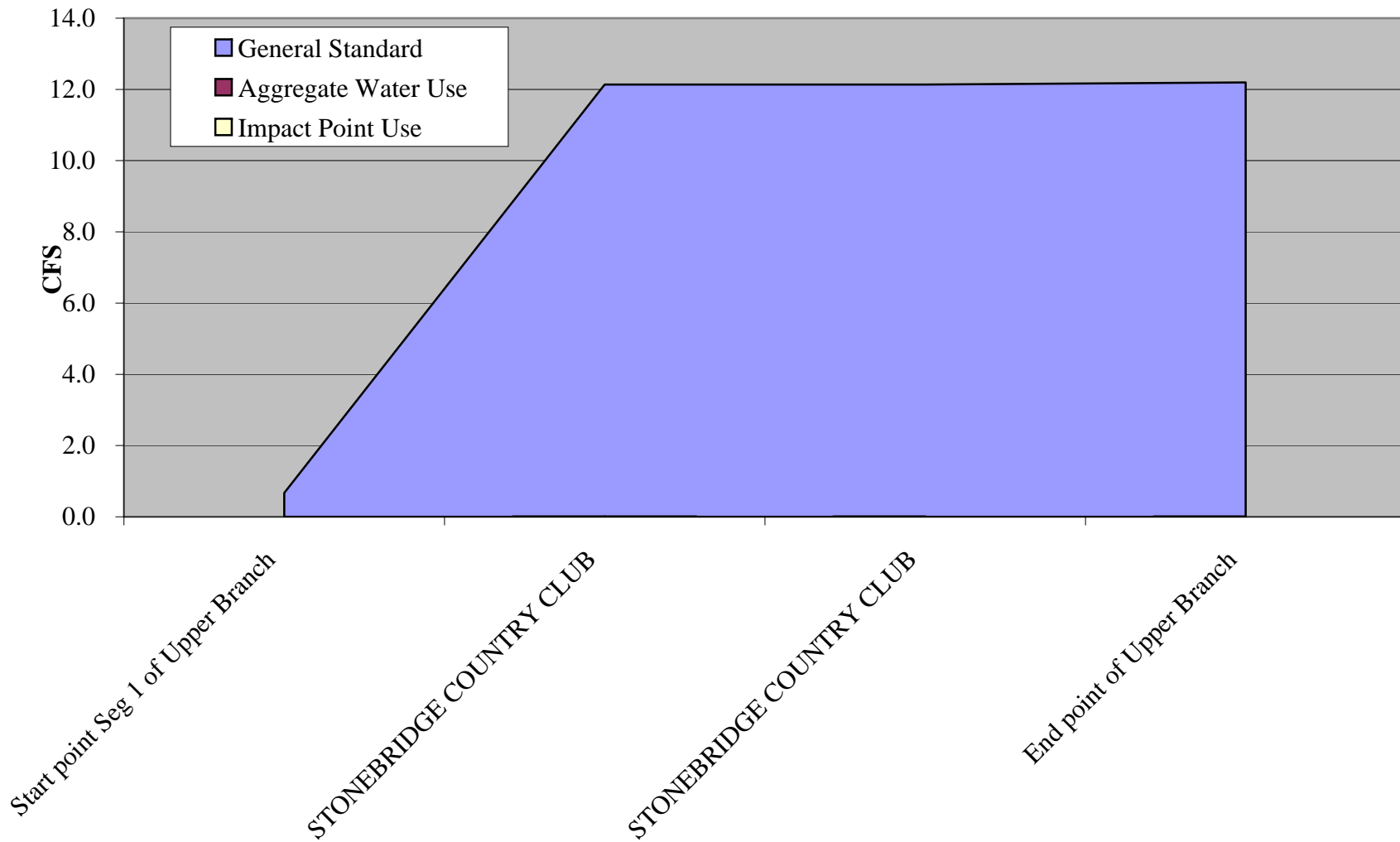
February 2003 Upper Branch Piscataquog River



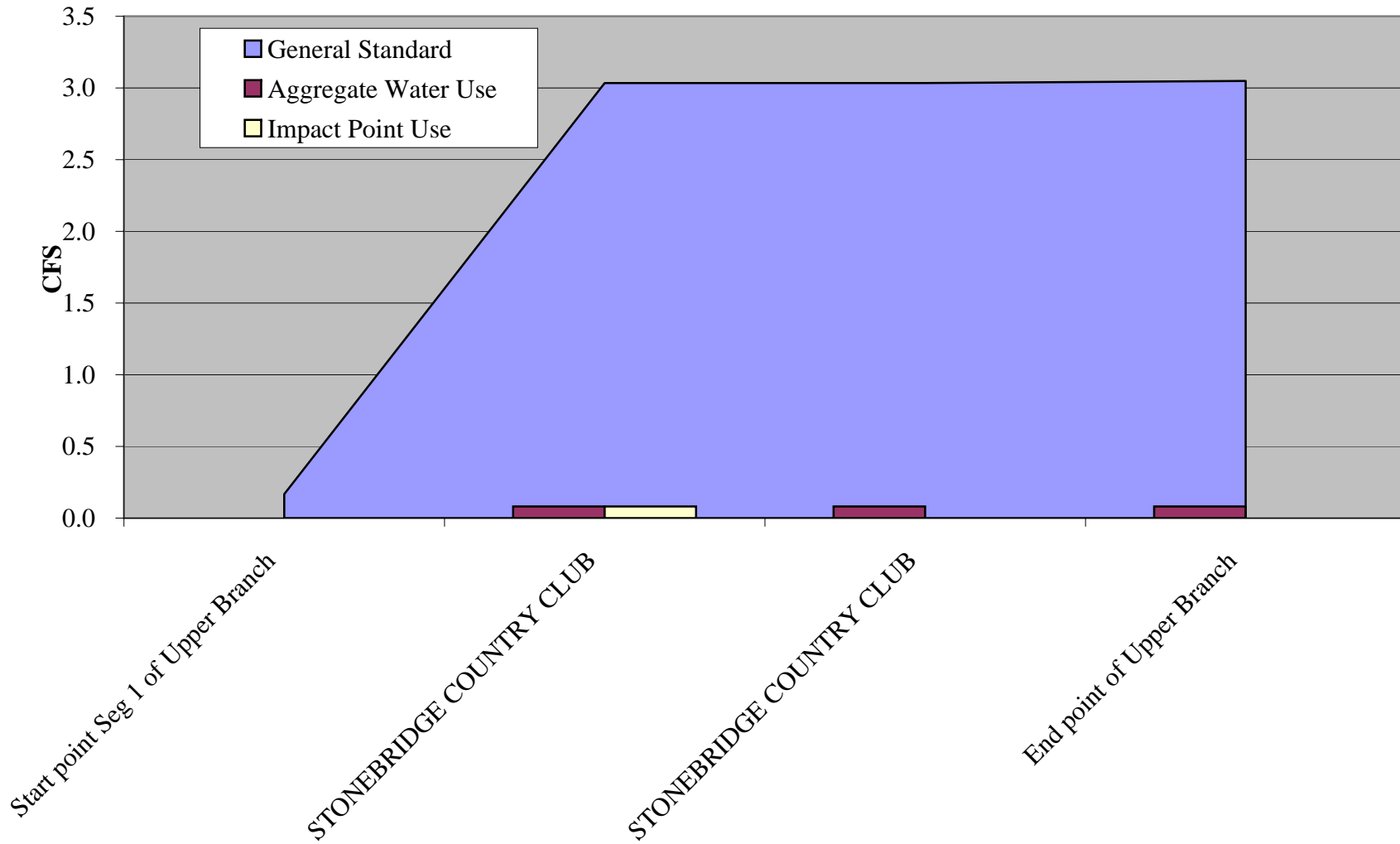
March 2003 Upper Branch Piscataquog River



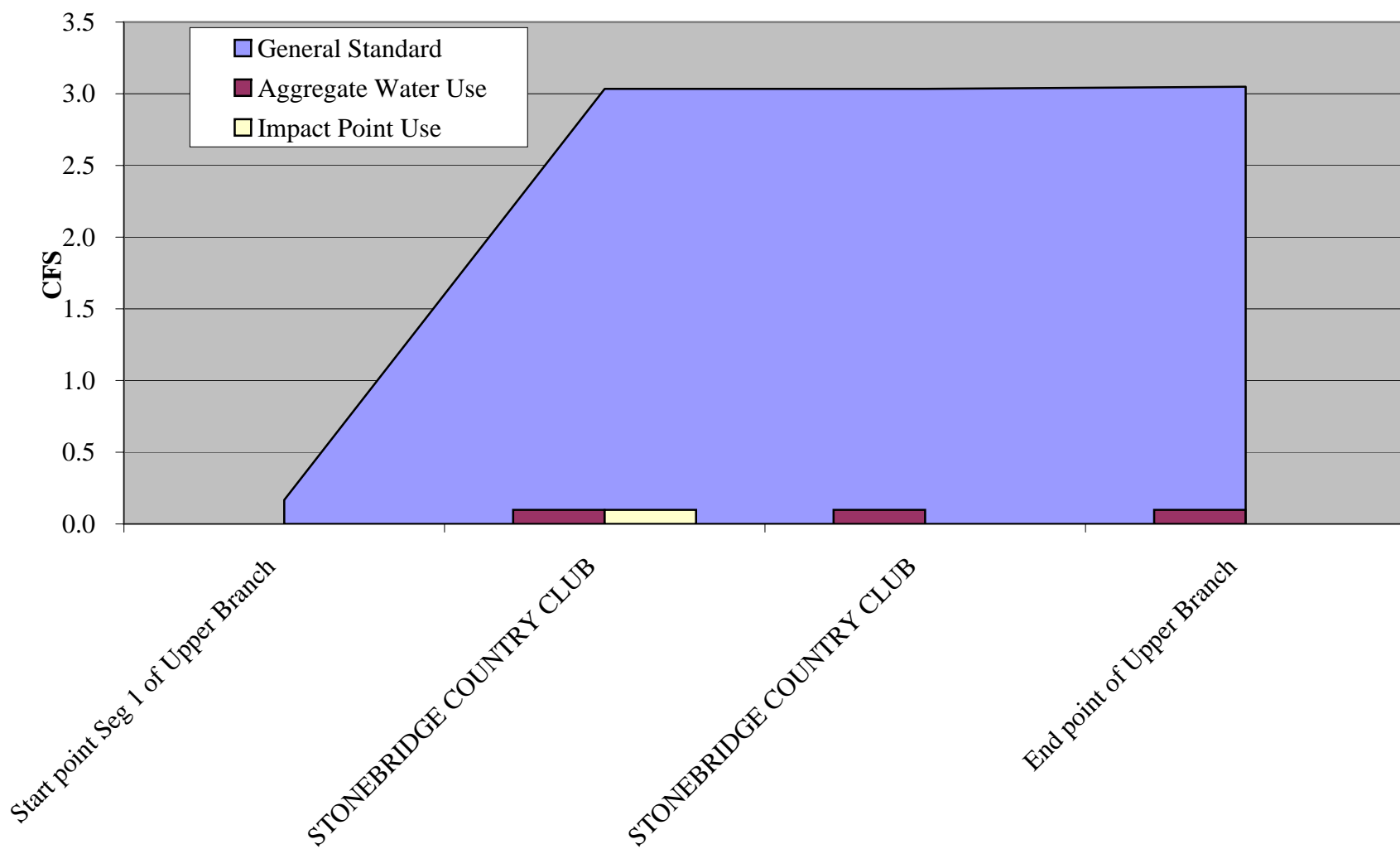
April 2003 Upper Branch Piscataquog River



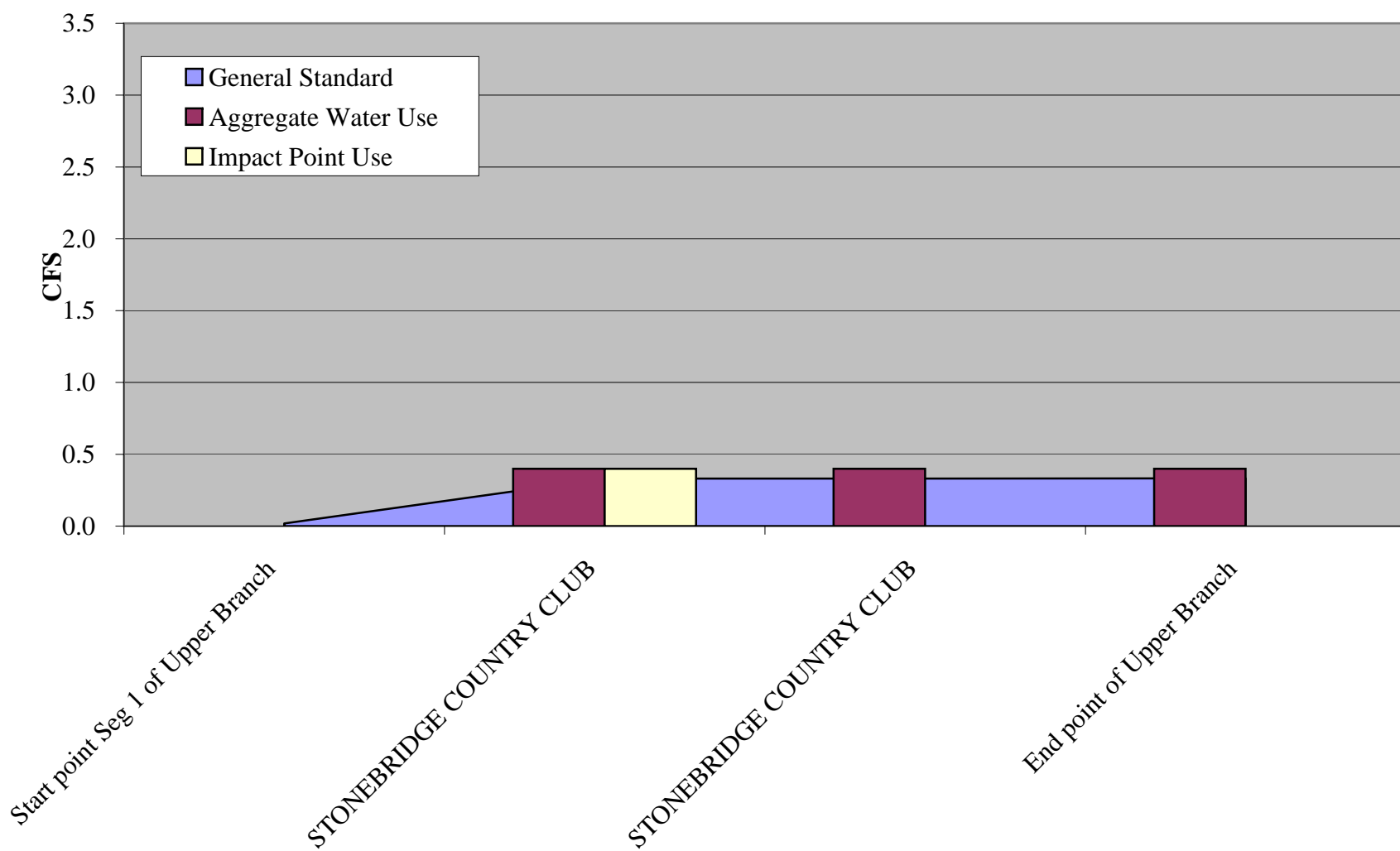
May 2003 Upper Branch Piscataquog River



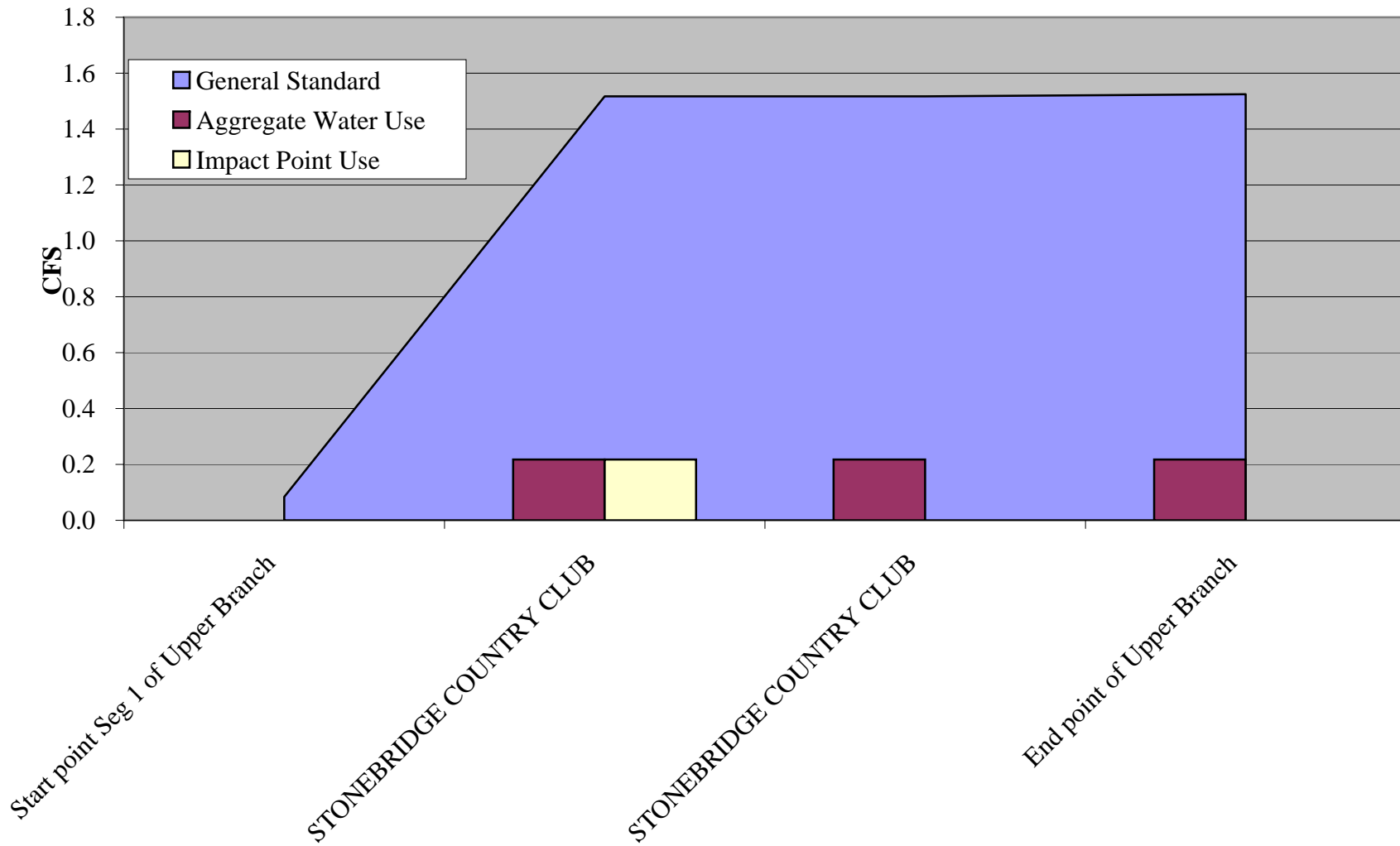
June 2003 Upper Branch Piscataquog River



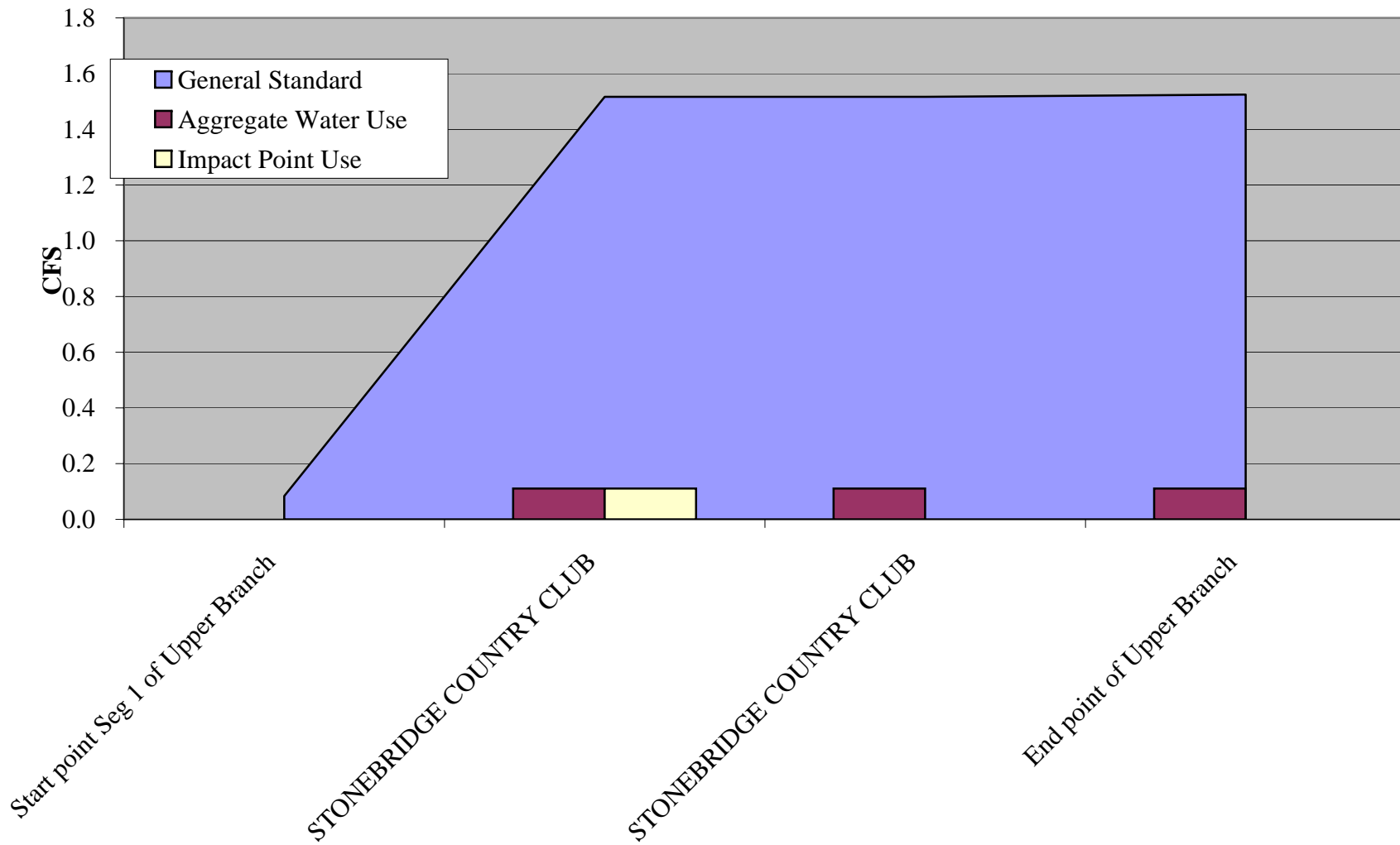
July 2003 Upper Branch Piscataquog River



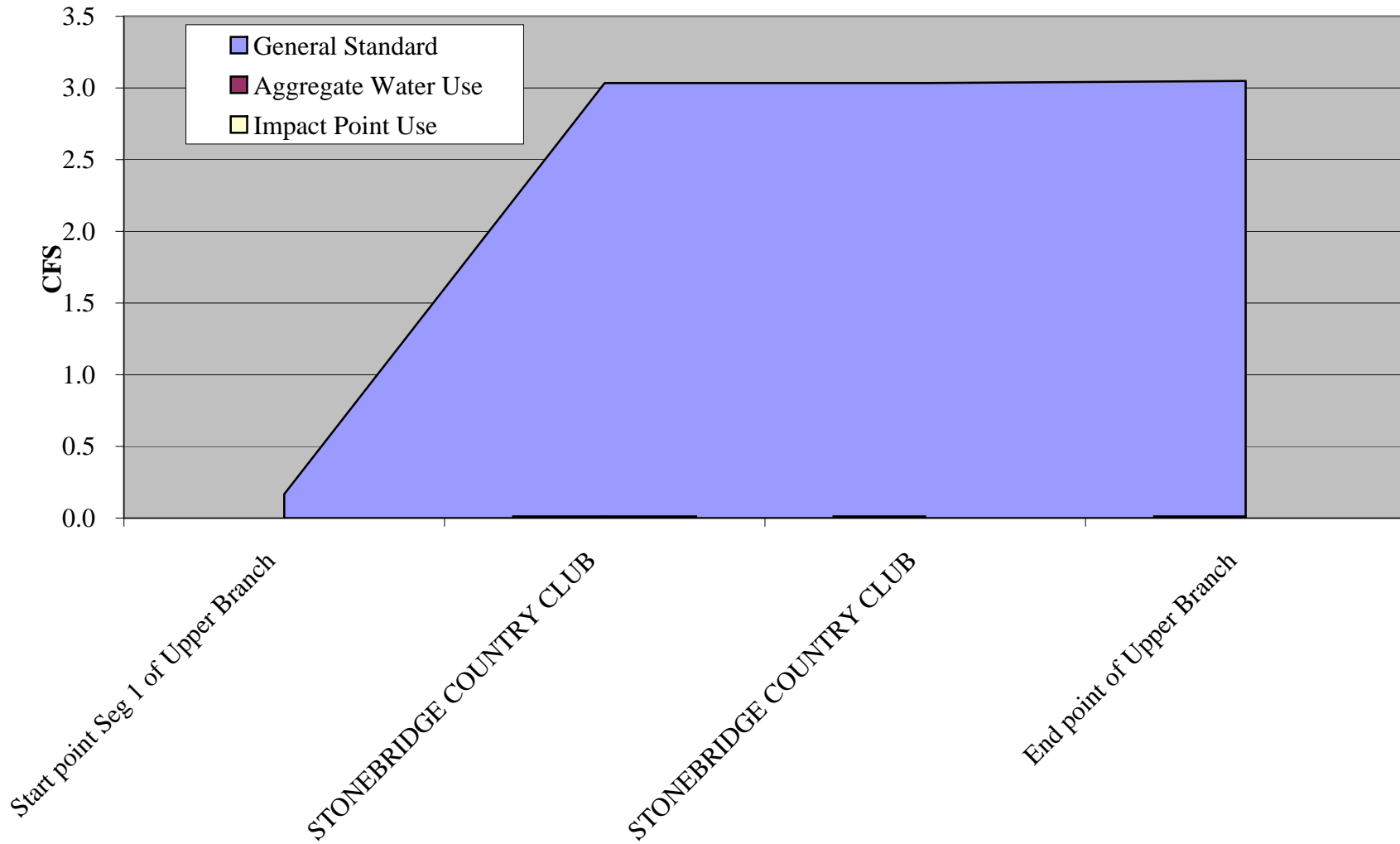
August 2003 Upper Branch Piscataquog River



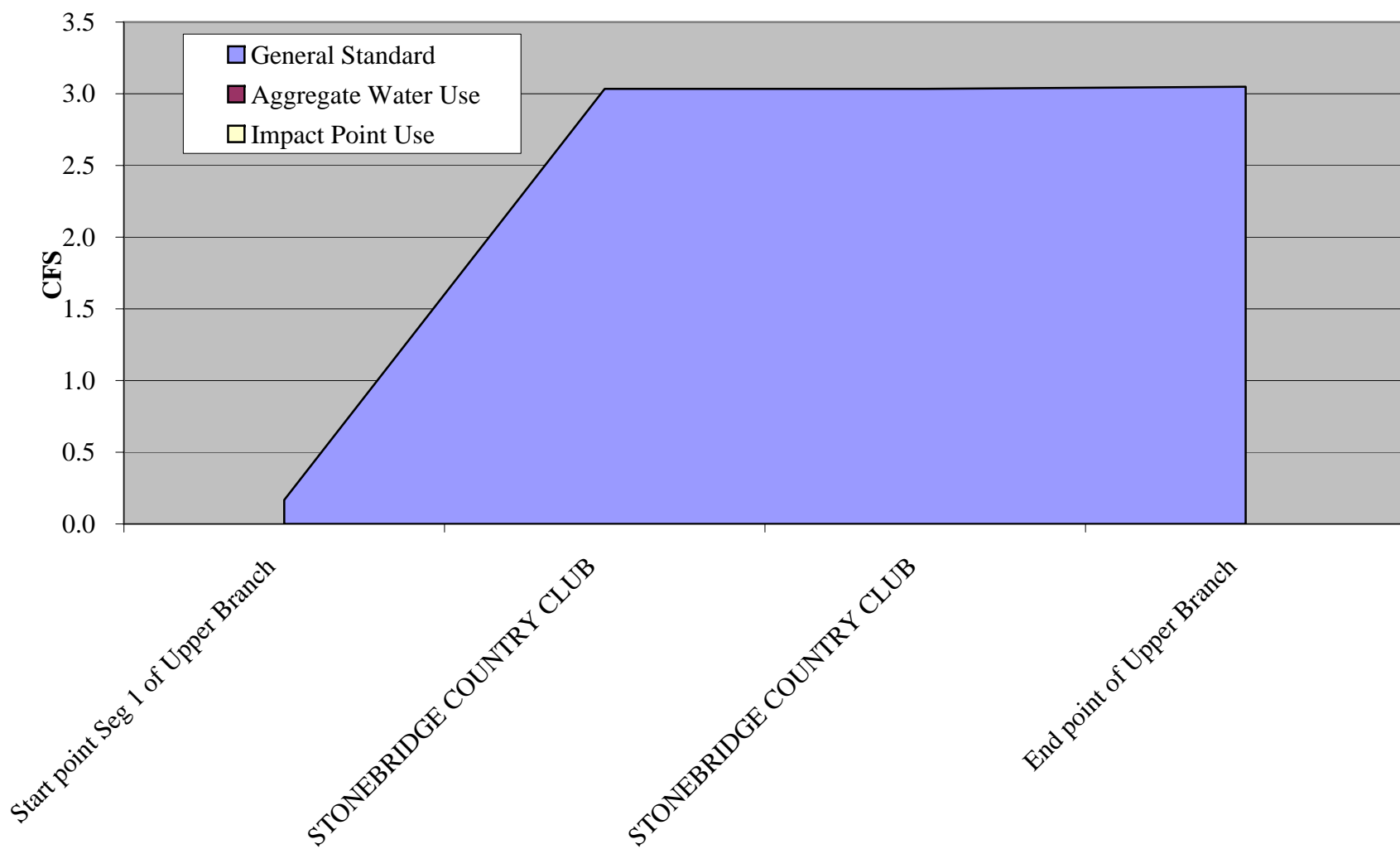
September 2003 Upper Branch Piscataquog River



October 2003 Upper Branch Piscataquog River



November 2003 Upper Branch Piscataquog River



December 2003 Upper Branch Piscataquog River

